I claim:

1. A fluid heating apparatus comprising a housing having a main chamber;

a central member within said main chamber and movable relative to said housing about an axis of rotation;

said central member comprising an outer surface confronting an inner surface of said main chamber and defining an annular fluid volume therebetween;

a fluid inlet communicating with said annular fluid volume and situated nearer one end of said main chamber and a fluid outlet communicating with said annular fluid volume and situated nearer an opposite end of said main chamber, wherein at least one of said inner and outer surfaces is angularly inclined relative to said axis of rotation.

2. A fluid heating apparatus according to claim 1 wherein said central member is a rotor driven in rotation about said axis of rotation, and said inner surface being stationary.

3. A fluid heating apparatus according to claim 2 further comprising a drive shaft rotatably supported in said housing and having a longitudinal axis of rotation; said rotor being driven by said drive shaft and where at least one of said inner and outer surfaces can be axially displaced relative to the position of said drive shaft to change said annular fluid volume.

4. The fluid heating apparatus according to claim 3 wherein said one of said first and second cylindrical surfaces is rotating at equal speed to said drive shaft.

5. The fluid heating apparatus according to claim 2 wherein both said inner and outer surfaces are inclined relative to said axis of rotation.

6. The fluid heating apparatus according to claim 2 wherein both said inner and outer surfaces are inclined relative to said axis of rotation by the same amount.

7. The fluid heating apparatus according to claim 2 wherein said inner and outer surfaces are inclined relative to said axis of rotation by a different amount.

8. A fluid heating apparatus according to claim 1 wherein said inner and outer surfaces are retractable from one another in an axial direction to increase said annular fluid volume.

9. A fluid heating apparatus according to claim 1 wherein said inner and outer surfaces are movable towards one another in an axial direction for an decrease said annular fluid volume.

10. The fluid heating apparatus according to claim 1 wherein fluid entering said annular fluid volume is subjected to increased turbulence and shearing when said inner and outer surfaces move closer towards one

another and decreased turbulence and shearing when said inner and outer surfaces move further from one another.

11. A fluid heating apparatus comprising a housing having a main chamber and a fluid inlet and a fluid outlet in fluid communication with said main chamber;

a rotor assembly disposed centrally in said main chamber, said fluid inlet being nearer a distal end of said rotor assembly and said fluid outlet being nearer the proximate end of said rotor assembly;

a drive shaft having a longitudinal axis of rotation rotatably supported in said housing and drivingly connected to said rotor assembly for imparting mechanical energy to said rotor assembly;

and first and second opposing fluid boundary defining surfaces radially spaced apart from one another along at least a majority of length of said rotor assembly to form a fluid heat generating region and wherein at least one of said fluid boundary defining surfaces is angularly inclined with respect to said longitudinal axis.

12. A fluid heating apparatus according to claim 11 wherein one of said fluid boundary defining surfaces can be axially displaced relative to the position of said drive shaft to change the volume of said fluid heat generating region.

13. A fluid heating apparatus according to claim 11 wherein said first and second opposing fluid boundary defining surfaces are retractable from one another in an axial direction for an increase in the radial distance there inbetween.

14. A fluid heating apparatus according to claim 11 wherein said first and second opposing fluid boundary defining surfaces are arranged to move towards one another in an axial direction for a decrease in the radial distance there inbetween.

15. A fluid heating apparatus according to claim 11 wherein said rotor assembly can be axially displaced relative to the position of said drive shaft to change the volume of said fluid heat generating region.

16. The fluid heating apparatus according to claim 11 wherein the fluid entering said fluid heating region is subjected to increased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move closer towards one another and decreased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move further from one another.

17. A fluid heating apparatus according to claim 11 wherein said rotor assembly is axially displaceable relative to said drive shaft such that on the one hand said first and second opposing fluid boundary defining surfaces may be moved closer towards one another, whereas on the other hand said first and second opposing fluid boundary defining surfaces may be moved further part from one another.

18. The fluid heating apparatus according to claim 17 wherein the fluid entering said fluid heating region is subjected to increased turbulence and shearing when said first and second opposing fluid boundary defining

surfaces move closer towards one another and decreased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move further from one another.

19. The fluid heating apparatus according to claim 16 wherein at least one of said boundary defining surfaces is rotating at equal speed to said drive shaft.

20. The fluid heating apparatus according to claim 16 wherein at least one of said boundary defining surfaces is being rotated by said drive shaft.

21. The fluid heating apparatus according to claim 20 wherein both said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis.

22. The fluid heating apparatus according to claim 21 wherein both said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis by the same amount.

23. The fluid heating apparatus according to claim 21 wherein said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis by a different amount.

24. The fluid heating apparatus according to claim 16 wherein said rotor assembly includes an impeller disposed at the smaller of its two end

faces, said impeller rotating at equal speed to said drive shaft to propel fluid radially towards said fluid heating region.

25. A fluid heating apparatus comprising a housing;

a main chamber in said housing and a rotor assembly disposed in said main chamber, said rotor assembly and said main chamber defining an inlet region, an exhaust region and a fluid heat generating region;

a drive shaft having a longitudinal axis of rotation rotatably supported in said housing and drivingly connected to said rotor assembly for imparting mechanical energy to said rotor assembly;

a fluid inlet provided in said housing and in fluid communication with said inlet region;

a fluid outlet provided in said housing and in fluid communication with said exhaust region;

said apparatus further comprising first and second opposing fluid boundary defining surfaces radially spaced apart from one another along at least a majority of length of said rotor assembly to form said fluid heat generating region and a unidirectional pathway for fluid upon entering said inlet region to reach said exhaust region, wherein at least one of said fluid boundary defining surfaces is angularly inclined with respect to said longitudinal axis.

26. A fluid heating apparatus according to claim 25 wherein one of said fluid boundary defining surfaces can be axially displaced relative to the position of said drive shaft to change the volume of said fluid heat generating region.

27. A fluid heating apparatus according to claim 25 wherein said first and second opposing fluid boundary defining surfaces are retractable from one another in an axial direction for an increase in the radial distance there inbetween.

28. A fluid heating apparatus according to claim 25 wherein said first and second opposing fluid boundary defining surfaces are moveable towards one another in an axial direction for a decrease in the radial distance there inbetween.

29. A fluid heating apparatus according to claim 25 wherein said rotor assembly can be axially displaced relative to the position of said drive shaft to change the volume of said fluid heat generating region.

30. The fluid heating apparatus according to claim 25 wherein the fluid entering said fluid heating region is subjected to increased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move closer towards one another and decreased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move further apart from one another.

31. A fluid heating apparatus according to claim 25 wherein said rotor assembly is axially displacable relative to said drive shaft such that on the one hand said first and second opposing fluid boundary defining surfaces may be moved closer towards one another, whereas on the other hand said first and second opposing fluid boundary defining surfaces may be moved further part from one another.

32. The fluid heating apparatus according to claim 31 wherein the fluid entering said fluid heating region is subjected to increased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move closer towards one another and decreased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move further apart from one another.

33. The fluid heating apparatus according to claim 30 wherein at least one of said boundary defining surfaces is rotating at equal speed to said drive shaft.

34. The fluid heating apparatus according to claim 30 wherein at least one of said boundary defining surfaces is being rotated by said drive shaft.

35. The fluid heating apparatus according to claim 34 wherein both said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis.

36. The fluid heating apparatus according to claim 35 wherein both said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis by the same amount.

37. The fluid heating apparatus according to claim 35 wherein said first and second opposing fluid boundary defining surfaces are inclined relative to said longitudinal axis by a different amount.

38. The fluid heating apparatus according to claim 30 wherein said housing includes a port and where said inlet is connected by said port to said fluid entry region.

39. The fluid heating apparatus according to claim 38 wherein said housing includes a fluid capturing groove, said capturing groove circumferentially surrounding said fluid heating region and positioned nearer that distal end of said rotor assembly lying furtherest from said inlet region, said exhaust region connected by said fluid capturing groove to said fluid exit.

40. The fluid heating apparatus according to claim 30 wherein said inlet region increases in volume as said rotor assembly is axially displaced in the direction for causing said first and second opposing fluid boundary defining surfaces to move further part from one another.

41. The fluid heating apparatus according to claim 40 wherein said rotor assembly includes an impeller disposed at the smaller of its two end faces, said impeller rotating at equal speed to said drive shaft in said inlet region to propel fluid radially towards said fluid heating region.

42. The fluid heating apparatus according to claim 41 wherein the fluid entering said fluid heating region is subjected to increased turbulence and shearing when said first and second opposing fluid boundary defining surfaces move closer towards one another and decreased turbulence and

shearing when said first and second opposing fluid boundary defining surfaces move further from one another.